



### SMC1000 Solid State Microwave Power Amplifier

80 – 1000 MHz • 1kW • Compact Size – 6U • Solid State Reliability

The Instruments for Industry, SMC1000 Solid State amplifier is state-of-the-art and provides outstanding RF performance. The SMC1000 amplifier operates over the frequency range from 80 - 1000 MHz and supplies 1.0kW of CW Power. From the ground up, the SMC1000 amplifier is built to withstand rugged handling, whether it's being shipped to you or hauled around from site to site. This series features heavy-duty aluminum chassis construction with a modular approach for easy access and service. The SMC1000 is perfectly suited for all Military / Avionic and EMC testing as well as general purpose industrial applications.

Operation safety and ease of use are paramount in IFI product designs. The SMC1000 amplifier includes a full complement of RF and hardware protection circuits including high VSWR, over-current, voltage protection, redundant thermal and airflow sensors for the module and the system level. In addition, the SMC1000 includes a state-of-the-art user interface that is sophisticated, comprehensive, and yet simple to use.

The Color Touchscreen shows forward/reverse power indication, system status and self-diagnostic information. Peak power metering is incorporated to measure forward and reflected power while producing pulse power. All the amplifier operating parameters are simultaneously available in the amplifier front panel display as well as over the remote bus. Selection switches allow you to switch the amplifier to the desired mode of operation for local control if the unit is not being operated remotely.

For computer automation both an RS-232 and IEEE interface are provided as standard. To meet individual application needs, the SMC1000 Series amplifiers can be easily customized with other options. With this capability and its reliable elegant design, the SMC1000 series amplifiers are the perfect system for your applications.

#### Features

- Solid State Design
- Rugged Construction & High Reliability
- Instantaneous Broadband Frequency range
- Backlit Color Touchscreen screen
- Modular Design Construction
- Integrated Force Air Cooling
- Self-diagnostic circuitry
- IEEE-488 interface & RS232 Remote
- Whisper Mode: lower acoustic noise
- Peak power metering



|                    |                   |                            |     |                |  |
|--------------------|-------------------|----------------------------|-----|----------------|--|
| MODEL S61-100      |                   | RF AMPLIFIER 1.0 - 6.0 GHz |     | IP: 64.178.0.4 |  |
| FWD: 185.0         |                   | RFL: 68.0                  |     | WATTS          |  |
| GAIN 55 %          |                   |                            |     | dBm            |  |
| PS1 0 V 0 A        | PS2 0 V 0 A       | STBY                       | FLT |                |  |
| DUTY CYCLE 10 %    | IPA1 0 A IPA2 0 A | OPRT                       | RST |                |  |
| PLS WDT 9999.4 uS  | PA1 0 A PA5 0 A   | LOC                        | ALC |                |  |
| REP RATE 100000 Hz | PA2 0 A PA6 0 A   | RMT                        | OFF |                |  |
| BAND 1 .1-6.0 GHz  | PA3 0 A PA7 0 A   |                            |     |                |  |
|                    | PA4 0 A PA8 0 A   |                            |     |                |  |
| INTERNAL 32 DEG C  | STBY HRS 179      |                            |     |                |  |
| BASEPLATE 0 DEG C  | OPRT HRS 59       |                            |     |                |  |
| STATUS: STANDBY    |                   |                            |     |                |  |
| FAULT: NO FAULTS   |                   |                            |     | GPIB 9         |  |



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General Specifications:

| Model Number | Frequency Range (MHz) | Rated Power (watts minimum) | Gain (dB min) | Mains (kVA) | Weight (Pounds) | Size (Inches)           |
|--------------|-----------------------|-----------------------------|---------------|-------------|-----------------|-------------------------|
| SMC1000      | 80 - 1000             | 1000                        | 60            | 7.0         | 60 Lbs.         | 10.5"H x 19"W x 25.25"D |

Standard Features for IFI SMC1000 Solid State Amplifier

|  |  |
|--|--|
| <b>Standard Features:</b>  | VSWR Reflected Power Protection, the unit operates without damage or oscillation into any magnitude of phase or load impedance, Open & Short Circuit Protection. |
|  | * Alternate Prime Power (specify at time of order)   |
|  | GPIB IEEE 488 & RS232 Remote Control   |
|  | RF Sample Port on the Front Panel, <a href="#">112R for rear panel</a>   |
|  | Internal Pre-amplification to obtain rated output power with an input level of 0 dBm or less.  |
|  | Gain Control Local & Remote, 30dB range  |
|  | RF Input/Output Connectors on the Front Panel, <a href="#">118R for rear panel</a>   |
|  | Internal Systems Diagnostics & Status Indicators   |
|  | Total/Operate Elapsed Time Metering in hours   |
|  | RF Safety Interlock  |
| Forward/Reflected Power Indication simultaneously on Front Panel display |  |

IFI SMC1000 Solid State Amplifier Specifications

|                              |  |
|------------------------------|--|
| Frequency Range:             | 80 - 1000 MHz  |
| Rated Output Power:          | 1000W  |
| P1dB Power:                  | 700W   |
| Gain @ Rated Power:          | 66 dB  |
| Prime Power:                 | As Required (Some are listed below)  |
| Input/output Impedance:      | 50 ohms  |
| RF Input/ Sample Connectors: | Type N Female, unless specified otherwise  |
| RF Output Connector:         | Type SC Female<br><a href="#">Other connectors available by request or specification</a> |
| Input VSWR:                  | 2.0:1  |
| Output VSWR:                 | 2.5:1  |
| Operating Temp:              | 0° to 50° C  |
| Non-operating Temp:          | -40° to 70° C (50,000 feet max)  |
| Humidity:                    | 95% without condensation   |
| Altitude:                    | 10,000 feet  |
| Cooling System:              | Air cooled, self contained   |
| Modulation:                  | Pulse, AM, FM  |
| Configuration:               | Rack Mountable   |
| Spurious Outputs:            | <-60 dBc nominal   |
| Harmonics:                   | -20dBc minimum @ Linear Power  |



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#### Standard Prime Powers:

220, 230, 240VAC ±10% 50/60 Hz, single phase

120/208 or 200/220/230/240VAC ±10% 50/60 Hz, three phase Wye or Delta power is available

200/220/230/240VAC ±10% 50/60 Hz, three phase Wye or Delta power is available

Special Prime Powers other then listed are subject to availability

#### Some Available Options for IFI SMC1000 Series Solid State Amplifiers

|                |   |
|----------------|---|
| Option 110-1E: | GPIB IEEE-488 RS232 and Ethernet Remote Control |
| Option 110-2:  | GPIB IEEE-488 and RS 422 Remote Control         |
| Option 110-3:  | GPIB IEEE-488 and RS 485 Remote Control         |
| Option 113:    | Chassis slides for a 19" rack mounting          |
| Option 118A:   | RF Input On Front Output On Rear                |
| Option 118B:   | RF Input On Rear Output On Front                |
| Option LC:     | Liquid Cooled                                   |

#### Outline Configuration

